

**REMARKS**

The Examiner rejected claims 1-3, 11, 13-18 and 20-21 under 35 U.S.C. §103(a) as being unpatentable over WO 03/083020 in view of either Filippini et al. (US 2004/011957), Mullay et al. (US 2004/0111955), JP 57055995, WO 2002/79353 or EP 242832. The Examiner rejected claim 12 under 35 U.S.C. §103(a) as being unpatentable over WO 03/083020 in view of either Filippini et al. (US 2004/011957), Mullay et al. (US 2004/0111955), JP 57055995, WO 2002/79353 or EP 242832 and further in view of either Papay et al. (US 5,652,201) or Kocsis et al. (US 6,310,009). Applicants respectfully traverse all of the rejections.

Applicants point out that WO 03/083020 is 35 U.S.C. §102(e) prior art, as the international application was published on October 9, 2003, after the present application's filing date of August 22, 2003. Therefore, it does not qualify as prior art under §102(a) or (b), but is prior art under §102(e) only.

Applicants hereby state that this patent application and WO 03/083020 have been and are commonly owned at the time of the invention and when the application was made. The application and WO 03/083020 are assigned to The Lubrizol Corporation and were subject to obligations of assignment to The Lubrizol Corporation at the time the presently claimed invention was made. Pursuant to 35 U.S.C. §103(c)(1), this precludes a rejection under 35 U.S.C. §103(a) or §102 based on this §102(e) reference. Therefore, Applicants respectfully request that all rejections based on this reference be removed.

While the removal of WO 03/083020 address the Examiner's above listed rejection, Applicants point out that Filippini and Mullay are also 35 U.S.C. §102(e) prior art references, as both Filippini and Mullay were published on June 17, 2004, after the present application's filing date of August 22, 2003. Therefore, the references do not qualify as prior art under §102(a) or (b), but are prior art references under §102(e) only.

Applicants hereby state that the present patent application, Filippini et al. (US 2004/011957), and Mullay et al. (US 2004/0111955) have been and are commonly owned at the time of the invention and when the present application was made. The present application, Filippini and Mullay are assigned to The Lubrizol Corporation and were subject to obligations of assignment to The Lubrizol Corporation at the time the presently claimed

invention was made. Pursuant to 35 U.S.C. §103(c)(1), this precludes a rejection under 35 U.S.C. §103(a) or §102 based on these §102(e) references. Therefore, Applicants respectfully request that all rejections based on Filippini et al. and Mullay et al. be removed.

With the removal of WO 03/083020, Applicants have addressed the Examiner's rejection of claims 1-3, 11, 12, 13-18 and 20-21 under 35 U.S.C. §103(a) as being unpatentable over WO 03/083020 in combination with any of the other cited references. Applicants have also addresses Filippini et al. (US 2004/011957) and Mullay et al. (US 2004/0111955) and will now address JP 57055995, WO 2002/79353 and EP 242832.

In regards to JP 57055995, the Examiner notes the reference is drawn to emulsified fuel and discloses the use of an emulsifier that is polyethylene glycol distearate emulsifier in order to produce emulsified fuel with preserved characteristics and satisfactory corrosion inhibition. Applicants have reviewed the abstract and point out that the invention refers to producing stable emulsified fuel with preserved characteristics and satisfactory corosions inhibition. The abstract makes no mention of a lubricant and so indicates the reference provides no motivation to combine its teachings with the use of a lubricant. There is no suggestion or motivation, in the abstract, to use the disclosed emulsifiers in connection with a lubricant in order to reduce emissions. Therefore the obviousness rejections based on this reference should be removed.

Furthermore, Applicants have amended claims 1, 15 and 18 to require that the emulsifier comprises a C<sub>9</sub>-C<sub>11</sub> alkoxy poly (ethoxy)<sub>8</sub> alcohol; C<sub>12</sub>-C<sub>15</sub> alkoxy poly (isopropoxy)<sub>22-26</sub> alcohol; diglycerol monooleate; diglycerol monostearate; polyglycerol monooleate; polyethylene glycol soya bean oil ester; diglycerol dioleate; diglycerol distearate; polyglycerol dioleate; sorbitan monoisostearate; polyethoxy glycerol trioleate; or a mixture of two or more thereof. Support for this amendment is found in the previously presented claims 1, 15 and 18 and at page 5, line 15 to page 14, line 11 of the specification.

As the emulsifier of the claimed invention does not include polyethylene glycol distearate, Applicants respectfully submit that JP 57055995, whose teachings are limited to the use of an emulsifier of polyethylene glycol distearate, provides no basis for an obviousness rejection. Applicants respectfully ask that all rejections based on this reference be removed.

In regards to WO 2002/79353, the Examiner notes the reference is drawn to fuel for internal combustion engines and discloses the use of additive concentrate including glycerol dioleate in order to reduce combustion emissions. Applicants point out that WO 2002/79353 is directed to an emulsified fuel and provides no disclosure, teaching, suggestion or motivation to use that fuel in combination with a lubricant in order to reduce exhaust emissions. The reference makes no mention of lubricants and so provides no motivation to combine its teachings with the use of a lubricant. Therefore the obviousness rejections based on this reference should be removed.

Furthermore, in light of the amendments to claims 1, 15 and 18 above, the emulsifier of the claimed invention does not include glycerol dioleate. Therefore, Applicants respectfully submit that WO 2002/79353, which discloses the use of a fuel additive concentrate including glycerol dioleate, provides no basis for an obviousness rejection. Applicants respectfully ask that all rejections based on this reference be removed.

In regards to EP 242832, the Examiner notes that the reference discloses the use of a surfactant mixture comprising 1-7 moles ethoxylated oleyl alcohol in order to emulsify a combination of water and fuel. Applicants have reviewed a complete abstract available in English from the esp@cenet database and point out that the reference discloses oleyl alcohol ethoxylates with 1 to 7 EO as part of the described “surfactant class C” only. The abstract also makes clear that the disclosed invention requires a mixture of at least two components from the described “surfactant class A” and may include additional surfactants from classes B and C. The surfactants of “surfactant class A”, which EP 242832 requires to be present, are limited to ethoxylates of octylphenol, nonylphenol and isotridecyl alcohol each with 1 to 7 EO, and are not required by Applicants’ present invention. The reference provides no disclosure, suggestion, teaching or motivation to use oleyl alcohol ethoxylates alone as an emulsifier or in combination with the other surfactants, as described by Applicants’ present invention. In addition, there is no teaching or suggestion that the emulsifier described in EP 242832 could be used in combination with a lubricant to reduce exhaust emissions. Therefore the obviousness rejections based on this reference should be removed.

Furthermore, in light of the amendments to claims 1, 15 and 18 above, the emulsifier of the claimed invention no longer includes oleyl alcohol ethoxylates. Therefore, Applicants respectfully submit that EP 242832 provides no basis for an obviousness rejection, alone or in

combination with any of the cited prior art. Applicants respectfully ask that all rejections based on this reference be removed.

Applicants have shown their invention to be novel and non-obvious over the above cited prior art. Therefore, Applicants respectfully request all rejections based on these references be removed.

The Examiner also rejected claims 1-7, 9, 11, 13-18 and 20-21 under 35 U.S.C. §103(a) as being unpatentable over WO 01/97952 in view of either Filippini et al. (US 2004/011957), Mullay et al. (US 2004/0111955), JP 57055995, WO 2002/79353 or EP 242832 and further in view of either WO 02/24842 or Carrick et al. (US 6,583,092). The Examiner rejected claim 12 under 35 U.S.C. §103(a) as being unpatentable over WO 01/97952 in view of either Filippini et al. (US 2004/011957), Mullay et al. (US 2004/0111955), JP 57055995, WO 2002/79353 or EP 242832, in view of either WO 02/24842 or Carrick et al. (US 6,583,092), and further in view of either Papay et al. (US 5,652,201) or Kocsis et al. (US 6,310,009). Applicants respectfully traverse all of the rejections.

In light of Applicants' above remarks and amendments related to Filippini et al. (US 2004/011957), Mullay et al. (US 2004/0111955), JP 57055995, WO 2002/79353 and EP 242832, Applicants' respectfully request all rejections based on these references be removed and all claims be allowed.

In addition, the Examiner notes that WO 01/97952 does not disclose, suggest or teach neither the lubricant nor the emulsifier required by Applicants' present invention. The reference provides no motivation to use its teachings of an emulsified fuel for a combustion engine with a specially formulated lubricant in order to achieve further emissions reduction, as required by the Applicants.

Furthermore, in regards to WO 02/24842, the Examiner notes the references is drawn to a lubricating oil composition that is mixed with a fuel composition. In regards to Carrick et al. (US 6,583,092), the Examiner notes the reference is drawn to a lubricating composition. Applicants point out that neither reference discloses, suggests nor teaches the use of an emulsified fuel with the disclosed lubricants and provides no motivation to use said lubricants in combination with an emulsified fuel, as required by the Applicants.

The Examiner has noted that not one of WO 01/97952, WO 02/24842 or Carrick alone discloses Applicants' present invention. Applicants have shown that none of the references provide any motivation to combine their teachings in such a way as to operate an engine with both the lubricant and the emulsified fuel required by the Applicants. Therefore, Applicants' respectfully request all rejections based on these references be removed.

Applicants have added new claim 22, which is identical to claim 12 except that the required antioxidant is more limited in the new claim. Claim 22 requires that the antioxidant be selected from the group consisting of 2, 6-di-tertiary butyl-4-methyl phenol, 4-propyl-2,6-di-tert-butylphenol, 4-butyl-2,6-di-tert-butylphenol 2,6-di-tert-butylphenol, 4-pentyl-2,6-di-tert-butylphenol, 4-hexyl-2,6-di-tert-butylphenol, 4-heptyl-2,6-di-tert-butylphenol, 4-(2-ethylhexyl)-2,6-di-tert-butylphenol, 4-octyl-2,6-di-tert-butylphenol, 4-nonyl-2,6-di-tert-butylphenol, 4-decyl-2,6-di-tert-butylphenol, 4-undecyl-2,6-di-tert-butylphenol, 4-dodecyl-2,6-di-tert-butylphenol, tetra propylene 2,6-di-tert-butylphenol, 4-tridecyl-2,6-di-tert-butylphenol, 4-tetradecyl-2,6-di-tert-butylphenol, 3,5-di-tert-butyl-4-hydroxy hydrocinnamie, (iso-octyl ester butyl ester), and combinations thereof. Support for this amendment is found in previously presented claim 12 and at page 24, line 26 to page 25, line 23 of the specification.

The Examiner noted, in part 4 of the June 1, 2007 Office Action, that Papay et al. (US 5,652,201) discloses the use of antioxidants such as diphenylamine, 2,6-di-tertbutyl phenol, and 4-ethyl-2,6,-di-tert-butylphenol. The Examiner also noted that Kocsis et al. (US 6,310,009) discloses the use of phosphosulfurized terpenes or sulfurized ester as antioxidants. Claim 22 requires a specific antioxidant or a mixture of specific antioxidants, which is not disclosed, suggested or taught by Papay or Kocsis, alone or in combination with any of the cited prior art. Therefore, claim 22 is both novel and non-obvious over the prior art cited and Applicants respectfully request that the claim be allowed.

In light of the remarks and amendments discussed above, Applicants have shown their invention to be novel and non-obvious other the prior art. Therefore, Applicants respectfully request the removal of all rejections and the allowance of all claims. Should the Examiner

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Preliminary Amendment

have any questions or believe that a telephone conference would expedite the prosecution of this application; she is requested to call the undersigned attorney at 440-347-4231.

If any fees are due, the Commissioner is authorized to charge such fee to The Lubrizol Corporation Deposit Account No. 12-2275.

Respectfully submitted,

THE LUBRIZOL CORPORATION

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